

fruit) of a dull green color, and with *striate erectish* only slightly curved leaves. (*Hypnum Peckii*, AUST. in litt. olim.)

*Hypnum fluitans* occurs near Closter, with an abortive female flower on the distinctly pedicelled male flower, in the axil of a lower perigonal leaf. These (female flowers) are composed of a few minute leaves enclosing from 1-3 pistils and several short paraphyses. This species is readily distinguished when fertile by the broad, very abruptly pointed perichaetial leaves. It sometimes roots from the apex of the stem leaves. Slender forms often have the leaves obtuse.

HYPNUM EXANNULATUM, GUMB. var. COCHLEÆ. Caule stricto rigido parce divisim interrupte valde ramoso, foliis erectis purpureo variegatis apice pro more integerimis in sicca parte superiore spiraliter tortis, basi sensim paulo angustata distincte serrata, cellulis infimis plerumque serie singula transversa inflatis.—*Dichelyma Swartzii*, S. & L. *Exsic. Ed. 2., n. 344*, planta Californica. Var. IMMERSUM.—Caule tenui debili, foliis circinnato-filicatis tenuis perangustis, basi ut in præcedente, apice distinctius remote serrato.—*Dichelyma Swartzii*, S. & L. l. c., planta Novæ Cesarensis. Var. SWARTZII.—Foliis hamato-incurvis rigidis (subserratis) basi solidioribus, cæteroquin ut in præcedente.—*Dichelyma Swartzii*, LINDE!

*Hypnum exannulatum* is nearest to *H. fluitans*, from which it may always be distinguished by the narrower, much less abruptly pointed perichaetial leaves, by the stem leaves gradually more or less narrowed toward the base, more or less distinctly serrate on the margin throughout (only serrate at the apex in *H. fluitans*), with much enlarged and inflated cells at the basal angles or extending across the base. Sometimes these inflated cells occur only at the basal angles, where they form a distinct large patch, and sometimes they extend across the whole base of the leaf in the same example. The plant is also dioecious; but I have always found the male and female plants mixed in fertile examples.

HYPNUM VACILLANS, SULLIV., *Icon. Suppl.*, is a form of *Hypnum riparium*, HEDW., (no doubt), with the leaves often obtuse. I have found a large form (sterile) in running water, and resembling a *Fontinalis*, with the leaves all obtuse.

*Hypnum fluviatile*, SWARTZ, is certainly only a form of *H. oligorrhizon*, GUMB., which is a form of *H. orthocladon*, BEAUV., which is a form of *H. serpens*, Linn. These forms clearly depend upon external causes—as matrix and climate—for the development of their peculiarities. The same may affirmed of all the other forms of *H. serpens*, as *H. radicale*, BRID., *H. irriguum*, WILS., *H. noterophilum*, S. & L., etc. In fact, so far as I have observed, there is no such thing as variety among any of the cryptogams, in the sense in which the term *variety* is applied to phænogams; none of them having the power to reproduce their peculiarities under a change of matrix or of climatic influence.

AN EXPLANATION.—A remark made by Mr. N. Coleman in the July number of the GAZETTE, really calls for an explanation on my part. He says "there must be some mistake!" We admit it, and a very unfortunate mistake for the credit of our State Flora, on the part of the authors of our Catalogue, who report only 979 plants, while our whole number must be twice as many! This came from not consulting Drs. C. C. Parry, Davenport; G. E. Ehinger, Keokuk; P. J. Farnsworth (Medical Professor at Iowa University, residence Clinton), and other older botanists. Many plants reported by me were collected from five to eleven years ago, and only now reported to rectify the deficit in said Catalogue. Nebraska reports 2,022 plants, and surely our good state, after all due allowance for the drift by long rivers from far western mountains of a host of their rarest flowers, ought not to fall behind by the thousand! I would, therefore, request that Mr. N. Coleman, Dr. C. C. Parry, and those above named, would send to the author of our Catalogue, Mr. J. C. Arthur, Ames, for copies and fill up the deficiencies in the

columns of the GAZETTE, giving dates and peculiarities, and so great good would grow out of this apparent evil.

One mistake of the authors of our Catalogue is to deny many of our clearest, admitted species. Thus they reject our beautiful *Tradescantia rosea*, *Rosa lucida*, *Panicum amarum* and *Carex varia*, holding that the latter is "merely an upland form of *Carex Pennsylvanica*,"—quite unfortunately, as both species grow together on upland or lowland indifferently! The season is not half over, but by a very fruitful visit of three weeks to Lyons, Clinton and Cedar Rapids, I have made a score of rare and valuable plants to add to said Catalogue, which will be sent for verification, with the Report, to the editor of the GAZETTE, so as to preclude all doubt. Five of these occur in Ames, viz: *Euphorbia polygonifolia*, L., July 22, College and cemetery; *Euphorbia herniarioides*? Nutt., August 9, cemetery (not quite ripe); *Iva ciliata*, Willd., from Ames to Nevada, August 14; *Potamogeton lucens*, L. var. ? *fluitans*, Gray, Moses' farm, two miles east of Ames, deep slough now nearly dry, growing in mud, submersed leave gone, July 31; with *Artemisia Canadensis*, Michx., Ames, 1876, abounds from College farm to Tama City, on gravelly banks, roadsides. It occurs no further west. To which may be added a beautiful specimen of *Pentstemon Cobarii*, sent at my request from Crescent City, Iowa, by H. H. Terry, who deserves great credit for its introduction from Nebraska, with other rare plants.—R. BURGESS, Ames, Iowa.

PURE WHITE VERBENA STRICTA.—This summer I found five pure-white specimens of *V. stricta* growing near each other. About forty rods from these were three others—perhaps seedlings of the first. Eight miles from this locality one plant was found, and twenty miles from the five first discovered three others were seen. The points of interest in regard to them were their wide distribution considering their rarity, their being surrounded by numerous specimens of the usual color, no pale intermediate forms being near, and in three cases out of the four, where there was more than one plant in a place, they grew close together, not being interspersed among the blue. Five roots were examined to see if they suckered, but no such connection was found. No difference in structure was observed between the white and the blue, excepting that the flower spikes were more slender and pointed in the white than in the blue.—J. M. MILLIGAN, Morgan county, Ill.

IS HELIANTHUS LETIFLORUS A GOOD SPECIES?—I have had reason to doubt whether this sunflower is a distinct plant. According to Gray's Manual, it has yellow disk flowers and acute involucre scales, "the leaves almost as thick as in *H. rigidus*," while the latter is said to have purple disk flowers and obtuse scales. I can see no other difference between the species, in the descriptions. Now, our *H. rigidus* usually has acute scales, (it is so described in Chapman's Flora!) and I have found near Oquawka, this season, several plants of this species with a yellow disk. The leaves vary greatly in size and shape, on different plants, from broadly ovate to almost linear, always thick and very rough. The color of flowers is, I think, of small importance. Mr. Bebb has found the allied *Rudbeckia hirta*, (usually purple), with a yellow disk. Will some one who believes in *H. letiflorus*, defend that species and send me a specimen?—H. N. P., Box 16, Oquawka, Ill.

SOME NYMPHEAS.—Dr. H. C. Beardslee, of Painesville, O., writes as follows: "A young lady of this place brought me, last week, a specimen of *Nelumbium luteum*, Salisb., collected in Bass Lake, a small inland lake, 12 or 15 miles south of this place and on the highlands 18 or 20 miles south of the lake shore. The locality was a surprise to me. The same lady informs me that she found a *Nymphaea* with pink flowers, not fragrant. Our white pond lily is *N. tuberosa* of Paine, which is said by Gray, in the Manual, never to have pink flowers. Either *Nymphaea odorata* occurs in that pond, which I can scarcely believe, or the petals of *N. tuberosa* are sometimes pink, or in the